

*NH Department of Environmental Services
Hazardous Waste Remediation Bureau (HWRB)*

***Explanation of the Risk
Characterization and Management Policy (RCMP)***

Introduction

The New Hampshire Department of Environmental Services (DES) [Risk Characterization and Management \(RCMP\)](#) provides standards and procedures for the cleanup of sites contaminated with oil and/or hazardous wastes. The RCMP was created by DES in partnership with the New Hampshire Department of Health and Human Services and a task force of environmental professionals. This joint effort was a direct result of the work of the "Cleanup and Reuse of Contaminated Sites Working Group" convened by the New Hampshire House Environmental and Agriculture Committee prior to the 1996 legislative session.

The development of the RCMP occurred concurrently with the creation and passage of House Bill 1536-FN, which enacted New Hampshire's "Brownfields Program" (RSA-147-F). The RCMP complements the liability relief provisions contained in RSA 147-F by filling in the details on the risk-based management approaches discussed in the statute. The RCMP is also the first DES document which contains both New Hampshire's oil and hazardous waste cleanup goals, thus creating a uniform approach for environmental cleanup regardless of the contaminant type.

Key program elements of the RCMP are:

Risk Characterization and Management: The RCMP establishes a three-tier risk characterization protocol, similar to ASTM's Risk Based Corrective Action (RBCA) standard. Method 1 provides tables of conservative risk-based soil and groundwater standards. Method 2 establishes an approach to modifying the assumptions used to derive the conservative standards provided in Method 1. Method 3 establishes protocols for use in performing a comprehensive risk assessment.

DES Remedial Action Completion Certifications: The RCMP provides an explanation of the remedial process endpoints established in RSA 147-F, specifically the Certificate of Completion and the Certificate of No Further Action. These new statute-based endpoints provide additional assurance that all necessary remedial actions have been taken and will help to revitalize brownfield sites and promote investment in New Hampshire businesses.

Activity and Use Restrictions: This section clarifies DES requirements and conditions for deed restrictions to limit exposure to residual contamination.

Three Tiered Risk Characterization Protocol

Method 1

Applicability of Method 1

Can be used to characterize risk of harm to human health and the environment at sites where site

investigations conducted under DES Groundwater Protection Rules, Hazardous Waste Rules or Rules for Reporting and Remediation of Oil Discharges. Method 1 may be used to characterize the risk of harm to human health and the environment at sites where assessments have determined that the presence of a contaminant is limited to soil and groundwater. DES may require a Method 2 or Method 3 Risk Characterization if other environmental media are contaminated, if the detected contaminants do not have standards, if indoor air quality is impacted or if environmental receptors are impacted.

General Approach of Method 1

A method 1 Risk Characterization compares site conditions to numeric Method 1 Standards. Each list of groundwater and soils standards has been developed considering a defined site of exposures considered to be a conservative estimate of the potential exposures at most sites. The exposures assumed correspond to the groundwater and soil categories as described in Sections 3.2 and 3.3 of the RCMP. The exposure Points and Exposure Point Concentrations must be identified in a manner consistent with these categories, such that the maximum concentrations of contaminants detected in soil and groundwater must be comparable directly to the Method 1 Standards, unless a alternate approach is provided by the Department.

Method 1 Soil Standards

Method 1 Soil Standards consider both the potential risk of harm resulting from direct exposure to contaminants in soil and the potential impacts on the groundwater at the site. The category of soil (S-1, S-2, or S-3) at each exposure point determines which Method 1 Soil Standard is applicable.

Method 1 Groundwater Standards

Method 1 Groundwater Standards include both GW-1 and GW-2 Standards. NH GW-1 standards are the State's drinking water standards were formally adopted in the DES Groundwater Protection Rules as Ambient Groundwater Quality Standards. GW-2 Standards are intended to provide guidance in the evaluation of groundwater quality data where there exists the potential of volatile contaminants from groundwater to indoor air.

Method 2

Applicability of Method 2

Method 2 may be used to characterize the risk of harm to human health and the environment where sites have been investigated under the same criteria as in Method 1.

General Approach to Method 2

A Method 2 Risk Characterization supplements and modifies the Method 1 standards with site- and chemical-specific information. For the purposes of the RCMP, Method 2 Standards must refer to the Method 1 standards which have been modified to address site-specific conditions as described in Section 8.2 of the RCMP. Site conditions are then compared to such method 2 Standards, in the same manner that Method 1 Standards are used under Section 7.3 of the RCMP, in order to characterize the risk of harm to human health and the environment.

Method 3

Applicability of Method 3

Method 3 may be used to characterize the risk of harm to human health and the environment for any site. In a method 3 Risk Characterization, the risks of harm to human health and the environment are evaluated separately. Method 3 Risk Characterizations use detailed site-specific information and

methodologies. DES prefers to approve scopes-of work for Method 3 Risk Characterizations before the work is undertaken. Scopes of Work for Method 3 Risk Assessments are reviewed by the NH Department of Health and Human Services prior to implementation. Risk Assessment Reports are jointly reviewed by both DES and the Department of Health and Human Services.

General Approach to Method 3

Method 3 relies upon detailed information about the site, the contaminant, and potential exposures to human and environmental receptors under all current and reasonably foreseeable site activities and uses to characterize the risk of harm. The scope and level of effort for the Method 3 Risk Characterization must reflect the site-specific nature of this method and the information used to characterize the risk must be sufficiently documented to demonstrate that the risk characterization performance requirements, described in Section 1.4 of the RCMP, have been met. The Method 3 risk characterization must be performed in a manner consistent with scientifically acceptable risk assessment practices and guidance published by DES and EPA. The objective of the Method 3 Risk Characterization is to provide a conservative estimate of impacts that contaminants may have on human and environmental receptors at the site and in the surrounding environment.

Remedial Action Completion Certifications

These new statute-based endpoints provide additional assurance to property owners, potential purchasers, developers and financial institutions that all necessary remedial actions have been taken.

The available certifications include a [Certificate of Completion](#) and a [Certificate of No Further Action](#).

A Certificate of Completion is issued when the active components of a Remedial Action Plan have been completed and the performance standards specified in the remedial action plan and/or the [Groundwater Management Permit](#) have been achieved.

A Certificate of No Further Action is issued when the site does not require significant additional oversight by DES, the remedial action plan has been completed and the Groundwater Management Permit has been terminated. Once a Certificate of No Further Action is issued, the site is considered to be closed and is removed from the DES list of actively managed sites.

Activity and Use Restrictions

Application

Activity and Use Restrictions specify activities and uses that will be prohibited and allowed at a site in the future in order to narrow the scope of exposure assumptions used to characterize risks to human health from a release of regulated contaminants to the environment.

Activity and Use Restrictions are required at sites where the restriction of activities and uses is needed in order to achieve or maintain protection of human health and/or the environment. This includes sites where the risk characterization is based on Method 1 or 2 Soil Standards and the exposure point concentration of contaminants exceed the S-1 standards but meet applicable S-2 or S-3 standards and at any site where a Method 3 Risk Characterization relies on reduced exposure potential because limited site use is assumed.

A Groundwater Management Zone that has been established and is being monitored under the provisions of a Groundwater Management Permit is an appropriate Activity and Use Restriction for groundwater at

a site that contains contaminant concentrations in groundwater that exceed Ambient Groundwater Quality Standards.

For guidance on preparing proposals for Activity and Use restrictions, click [here](#) to view the Department's Activity and Use Restriction Proposal Checklist.



*Maintained by the Hazardous Waste Remediation Bureau of the
New Hampshire Department of Environmental Services.
Last update on: May 1, 1998*